WHAT IS CLAIMED IS:

1. A method of manufacturing a semiconductor device comprising the steps of:

forming a heat retaining film on an insulating surface;

etching a part of said heat retaining film;

forming a semiconductor film in contact with said insulating surface and said heat retaining film;

forming a reflective film covering said semiconductor film wherein a potion of said reflective film overlaps said heat retaining film;

etching said portion of the reflective film;

irradiating said reflective film and said semiconductor film with a laser beam to crystallize said semiconductor film; and

manufacturing a thin film transistor using the crystallized semiconductor film in contact with said heat retaining film as a channel formation region.

2. A method of manufacturing a semiconductor device comprising the steps of:

forming a heat retaining film on an insulating surface;

etching a part of said heat retaining film;

forming a first insulating film covering said heat retaining film;

etching a part of said first insulating film;

forming a semiconductor film in contact with said insulating surface and said first insulating film;

forming a second insulating film covering said semiconductor film;

forming a reflective film covering said second insulating film wherein a portion of said reflective film overlaps said heat retaining film;

etching said portion of the reflective film;

irradiating said reflective film and said semiconductor film with a laser beam to crystallize said semiconductor film;

manufacturing a thin film transistor using said the crystallized semiconductor film as a channel formation region in contact with said heat retaining film via said first insulating film therebetween.

3. A method of manufacturing a semiconductor device comprising the steps of:

forming a heat retaining film on an insulating surface;

etching a part of said heat retaining film;

forming a first insulating film covering said heat retaining film;

etching a part of said first insulating film;

forming a semiconductor film in contact with said insulating

surface and said first insulating film;

forming a second insulating film covering said semiconductor film;

forming a reflective film covering said second insulating film wherein a portion of said second insulating film overlaps said heat retaining film;

etching said portion of the second insulating film;

irradiating said reflective film and said semiconductor film with a laser beam to crystallize said semiconductor film; and

manufacturing a thin film transistor using the crystallized semiconductor film as a channel formation region in contact with said heat retaining film via said first insulating film therebetween.

4. A method of manufacturing a semiconductor device comprising the steps of:

forming a heat retaining film on an insulating surface;

etching a part of said heat retaining film;

forming a semiconductor film in contact with said insulating surface and said heat retaining film;

forming a reflective film covering said semiconductor film;

etching a part of said reflective film to form a polygonal shape having at least one vertex smaller than 60° and corresponding with an edge of said heat retaining film via the semiconductor film therebetween;

irradiating said reflective film and said semiconductor film with a laser beam to crystallize said semiconductor film; and

manufacturing a thin film transistor using the crystallized semiconductor film as a channel formation region in contact with said heat retaining film.

5. A method of manufacturing a semiconductor device comprising the steps of:

forming a heat retaining film on an insulating surface;

etching a part of said heat retaining film;

forming a first insulating film covering said heat retaining film;

etching a part of said first insulating film;

forming a semiconductor film in contact with said insulating surface and said first insulating film;

forming a second insulating film covering said semiconductor film;

forming a reflective film covering said second insulating film;

etching a part of said reflective film to form a polygonal shape having at least one vertex smaller than 60° and corresponding with an edge of said heat retaining film via the semiconductor film therebetween;

irradiating said reflective film and said semiconductor film with a laser beam to crystallize said semiconductor film; and

manufacturing a thin film transistor using the crystallized semiconductor film as a channel formation region in contact with said heat retaining film with the first insulating film interposed therebetween.

6. A method of manufacturing a semiconductor device comprising the steps of:

forming a heat retaining film on an insulating surface;

etching a part of said heat retaining film;

forming a first insulating film covering said heat retaining film;

etching a part of said first insulating film;

forming a semiconductor film in contact with said insulating surface and said first insulating film;

forming a second insulating film covering said semiconductor film;

etching a part of said reflective film to form a polygonal shape having at least one vertex smaller than 60° and corresponding with an edge of said heat retaining film via the semiconductor film therebetween;

etching a portion of said second insulating film, said portion overlapping said heat retaining film;

irradiating said reflective film and said semiconductor film with a laser beam to crystallize said semiconductor film; and

manufacturing a thin film transistor using the crystallized semiconductor film as a channel formation region in contact with said heat retaining film with the first insulating film interposed therebetween.

7. The method according to claim 1 wherein the heat retaining film comprises silicon oxide, which contains one selected from the group consisting of methyl ($CH_3$) group, ethyl ($C_2H_5$) group, propyl ($C_3H_7$) group, butyl ($C_4H_9$) group, vinyl ($C_2H_3$) group, phenyl ($C_6H_5$) group, and $CF_3$ group.

8. The method according to claim 2 wherein the heat retaining film comprises silicon oxide, which contains one selected from the group consisting of methyl ($CH_3$) group, ethyl ($C_2H_5$) group, propyl ($C_3H_7$) group, butyl ($C_4H_9$) group, vinyl ($C_2H_3$) group, phenyl ($C_6H_5$) group, and $CF_3$ group.

9. The method according to claim 3 wherein the heat retaining film comprises silicon oxide, which contains one selected from the group consisting of methyl ($CH_3$) group, ethyl ($C_2H_5$) group, propyl ($C_3H_7$) group, butyl ($C_4H_9$) group, vinyl ($C_2H_3$) group, phenyl ($C_6H_5$) group, and $CF_3$ group.

10. The method according to claim 4 wherein the heat retaining film comprises silicon oxide, which contains one selected from the

group consisting of methyl ($CH_3$) group, ethyl ($C_2H_5$) group, propyl ($C_3H_7$) group, butyl ($C_4H_9$) group, vinyl ($C_2H_3$) group, phenyl ($C_6H_5$) group, and $CF_3$ group.

11. The method according to claim 5 wherein the heat retaining film comprises silicon oxide, which contains one selected from the group consisting of methyl ($CH_3$) group, ethyl ($C_2H_5$) group, propyl ($C_3H_7$) group, butyl ($C_4H_9$) group, vinyl ($C_2H_3$) group, phenyl ($C_6H_5$) group, and $CF_3$ group.

12. The method according to claim 6 wherein the heat retaining film comprises silicon oxide, which contains one selected from the group consisting of methyl ($CH_3$) group, ethyl ($C_2H_5$) group, propyl ($C_3H_7$) group, butyl ($C_4H_9$) group, vinyl ($C_2H_3$) group, phenyl ($C_6H_5$) group, and $CF_3$ group.

13. The method according to claim 1 wherein said heat retaining film is selected from the group consisting of a porous silicon film and a porous silicon oxide film.

14. The method according to claim 2 wherein said heat retaining film is selected from the group consisting of a porous silicon film and a porous silicon oxide film.

15. The method according to claim 3 wherein said heat retaining film is selected from the group consisting of a porous silicon film and a porous silicon oxide film.

16. The method according to claim 4 wherein said heat retaining film is selected from the group consisting of a porous silicon film and a porous silicon oxide film.

17. The method according to claim 5 wherein said heat retaining film is selected from the group consisting of a porous silicon film and a porous silicon oxide film.

18. The method according to claim 6 wherein said heat retaining film is selected from the group consisting of a porous silicon film and a porous silicon oxide film.

19. The method according to claim 1 wherein said semiconductor film is heated during the irradiation of the laser beam.

20. The method according to claim 2 wherein said semiconductor film is heated during the irradiation of the laser beam.

21. The method according to claim 3 wherein said semiconductor film is heated during the irradiation of the laser beam.

22. The method according to claim 4 wherein said semiconductor film is heated during the irradiation of the laser beam.

23. The method according to claim 5 wherein said semiconductor film is heated during the irradiation of the laser beam.

24. The method according to claim 6 wherein said semiconductor film is heated during the irradiation of the laser beam.

25. The method according to claim 1 wherein said semiconductor device is selected from the group consisting of a mobile phone, a video camera, a digital camera, a projector, a goggle-type display, a personal computer, a DVD player, an electronic book, and a portable information terminal.

26. The method according to claim 1 wherein said semiconductor device is an electroluminescence display device.

27. The method according to claim 2 wherein said semiconductor device is selected from the group consisting of a mobile phone, a video camera, a digital camera, a projector, a goggle-type display, a personal computer, a DVD player, an electronic book, and a portable information terminal.

28. The method according to claim 2 wherein said semiconductor device is an electroluminescence display device.

29. The method according to claim 3 wherein said semiconductor device is selected from the group consisting of a mobile phone, a video camera, a digital camera, a projector, a goggle-type display, a personal computer, a DVD player, an electronic book, and a portable information terminal.

30. The method according to claim 3 wherein said semiconductor device is an electroluminescence display device.

31. The method according to claim 4 wherein said semiconductor device is selected from the group consisting of a mobile phone, a video camera, a digital camera, a projector, a goggle-type display, a personal computer, a DVD player, an electronic book, and a portable information terminal.

32. The method according to claim 4 wherein said semiconductor device is an electroluminescence display device.

33. The method according to claim 5 wherein said semiconductor device is selected from the group consisting of a mobile phone,

a video camera, a digital camera, a projector, a goggle-type display, a personal computer, a DVD player, an electronic book, and a portable information terminal.

34. The method according to claim 5 wherein said semiconductor device is an electroluminescence display device.

35. The method according to claim 6 wherein said semiconductor device is selected from the group consisting of a mobile phone, a video camera, a digital camera, a projector, a goggle-type display, a personal computer, a DVD player, an electronic book, and a portable information terminal.

36. The method according to claim 6 wherein said semiconductor device is an electroluminescence display device.

37. A semiconductor device having a thin film transistor, comprising:

a heat retaining film formed on an insulating surface;

a semiconductor film formed in contact with said insulating surface and heat retaining film; and

a channel formation region formed in said semiconductor film and in contact with said heat retaining film.

38. A semiconductor device having a thin film transistor, comprising:

a heat retaining film formed on an insulating surface;

an insulating film covering said heat retaining film;

a semiconductor film in contact with said insulating film and said insulating surface;

a channel formation region formed in said semiconductor film and in contact with said heat retaining film via said insulating film therebetween.

39. The semiconductor device according to claim 37 wherein said the heat retaining film comprises silicon oxide, which contains one selected from the group consisting of methyl ($CH_3$) group, ethyl ($C_2H_5$) group, propyl ($C_3H_7$) group, butyl ($C_4H_9$) group, vinyl ($C_2H_3$) group, phenyl ($C_6H_5$) group, and $CF_3$ group.

40. The semiconductor device according to claim 38 wherein said the heat retaining film comprises silicon oxide, which contains one selected from the group consisting of methyl ($CH_3$) group, ethyl ($C_2H_5$) group, propyl ($C_3H_7$) group, butyl ($C_4H_9$) group, vinyl ($C_2H_3$) group, phenyl ($C_6H_5$) group, and $CF_3$ group.

41. The semiconductor device according to claim 37 wherein said heat retaining film is selected from the group consisting of

a porous silicon film and a porous silicon oxide film.

42. The semiconductor device according to claim 38 wherein said heat retaining film is selected from the group consisting of a porous silicon film and a porous silicon oxide film.

43. The semiconductor device according to claim 37 wherein said heat retaining film has a heat conductivity of 1.0 W/mk or less.

44. The semiconductor device according to claim 38 wherein said heat retaining film has a heat conductivity of 1.0 W/mk or less.

45. The semiconductor device according to claim 37 wherein said heat retaining film has a heat conductivity of 0.3 W/mk or less.

46. The semiconductor device according to claim 38 wherein said heat retaining film has a heat conductivity of 0.3 W/mk or less.

47. The semiconductor device according to claim 37 wherein said semiconductor device is selected from the group consisting

of a mobile phone, a video camera, a digital camera, a projector, a goggle-type display, a personal computer, a DVD player, an electronic book, and a portable information terminal.

48. The semiconductor device according to claim 38 wherein said semiconductor device is an electroluminescence display device.